What is claimed is:

1. A semiconductor device comprising:

a semiconductor substrate;

an insulating layer formed on the semiconductor substrate and having a contact hole therethrough;

a diffusion barrier layer formed on a surface of the insulating layer and on surfaces within the contact hole; and

a contact plug which comprises a first sub-plug that fills a lower portion of the contact hole and a second sub-plug that fills an upper portion of the contact hole on the first sub-plug.

2. The semiconductor device of claim 1, wherein the first sub-plug is formed of tungsten and the second sub-plug is formed of titanium nitride.

3. The semiconductor device of claim 2, wherein the titanium nitride is formed to a thickness of no greater than approximately 1000 Å.

4. The semiconductor device of claim 2, wherein the diffusion barrier layer is formed of titanium/titanium nitride.

5. A method for manufacturing a semiconductor device comprising:

forming an insulating layer having a contact hole therethrough on a semiconductor substrate;

forming a diffusion barrier layer on a surface of the insulating layer and on surfaces within the contact hole; and

forming a plug in the contact hole by forming a first sub-plug that fills a lower portion of the contact hole and forming a second sub-plug that fills an upper portion of the contact hole on the first sub-plug.

6. The method for manufacturing a semiconductor device of claim 5, wherein forming a first sub-plug comprises forming a first metal layer on the

insulating layer having the contact hole therethrough and etching back the first metal layer to a predetermined depth to expose a void in the first metal layer, if any.

7. The method for manufacturing a semiconductor device of claim 5, wherein forming a second sub-plug comprises forming a second metal layer on the semiconductor substrate on which the first sub-plug has been formed and polishing the second metal layer so as to expose a top surface of the diffusion barrier layer on the insulating layer.

8. The method for manufacturing a semiconductor device of claim 6, wherein forming a second sub-plug comprises forming a second metal layer on the semiconductor substrate on which the first sub-plug has been formed and polishing the second metal layer so as to expose a top surface of the diffusion barrier layer on the insulating layer.

9. The method for manufacturing a semiconductor device of claim 5, wherein the first sub-plug is formed of tungsten.

10. The method for manufacturing a semiconductor device of claim 5, wherein the second sub-plug is formed of one of tungsten and titanium nitride.

11. The method for manufacturing a semiconductor device of claim 5, wherein the second sub-plug is formed to a thickness no greater than 1000 Å.

12. The method for manufacturing a semiconductor device of claim 5, wherein the diffusion barrier layer is formed of titanium/titanium nitride.